

# Design, Construction, and Equipment

WAC 296-863-200

## Summary

### YOUR RESPONSIBILITY:

**To make sure PITs are properly designed, constructed, and equipped**

#### You must

##### Design and construction

Make sure PITs meet design and construction requirements WAC 296-863-20005 .....	200-3
Meet these requirements when modifying or altering PITs WAC 296-863-20010 .....	200-4

##### Labeling

Make sure PITs are properly labeled WAC 296-863-20015 .....	200-5
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##### Equipment

Protect operators from falling objects WAC 296-863-20020 .....	200-6
Provide fall protection on order pickers WAC 296-863-20025 .....	200-7
Provide directional lights when required WAC 296-863-20030 .....	200-7



# Design, Construction, and Equipment

WAC 296-863-200

## Summary

### Liquefied petroleum gas (LPG) PITs

Make sure liquefied petroleum gas (LPG) fueled PITs meet these requirements

WAC 296-863-20035 .....200-8

Meet these requirements when converting gasoline fuel PITs to liquefied petroleum gas (LPG) fuel

WAC 296-863-20040 .....200-9



# Design, Construction, and Equipment

WAC 296-863-200

## Rule

### WAC 296-863-20005

#### Make sure PITs meet design and construction requirements

##### You must

- Make sure PITs meet American National Standards Institute (ANSI) design and construction requirements.
- Make sure PITs manufactured **before** March 1, 2000, meet the requirements of ANSI B56.1-1969, Safety Standards for Powered Industrial Trucks.
- Make sure PITs manufactured **on or after** March 1, 2000, meet the requirements of ANSI B56.1-1993, Safety Standards for Powered Industrial Trucks.
- Make sure rough terrain forklift trucks manufactured on or after January 1, 2005, meet the design and construction requirements of ANSI B56.6-1992, Safety Standard for Rough Terrain Forklift Trucks.



##### Note:

- There may be a nameplate on the PIT or a statement in the instruction manual indicating that the PIT meets the requirement of the appropriate ANSI standard. If in doubt, check with the manufacturer.
- ANSI B56.1-1993 and B56.6-1992 are available by:
  - Purchasing copies by writing:  
American National Standards Institute  
11 West 42nd Street  
New York, NY 10036
  - or**
  - Contacting the ANSI website at [www.ansi.org](http://www.ansi.org)



# Design, Construction, and Equipment

WAC 296-863-200

## Rule

### WAC 296-863-20010

#### Meet these requirements when modifying or altering PITs

##### You must

- Have written approval from the PIT manufacturer before making any modifications to the PIT that:
  - Change the relative position of the various parts of the PIT from what they were when originally received from the manufacturer
  - Add extra parts not provided by the PIT manufacturer
  - Eliminate any parts
  - Affect capacity or safe operation.



##### Exemption:

- This doesn't apply to converting PITs from gasoline to LPG fuel.

##### You must

- Make sure any modifications or additions to the PIT are shown on the plates, tags, or decals to reflect any changes in the PITs:
  - Capacity
  - Operation
  - Maintenance instructions.



# Design, Construction, and Equipment

WAC 296-863-200

## Rule

### WAC 296-863-20015

#### Make sure PITs are properly labeled

##### You must

- Make sure all PIT nameplates as well as any stickers, stencils or marks that relate to the stability and safety of the PIT are:
  - In place
  - Legible.



##### Note:

- PITs should have a nameplate installed by the manufacturer that contains at least the following information:
  - Model and serial number
  - Approximate weight of the PIT
  - Certification that the manufacturer has met the mandatory requirements of ANSI B56.1, Safety Standards for Powered Industrial Trucks
  - Type designation to show the PIT meets the applicable requirements of a nationally recognized testing laboratory.

##### You must

- Make sure PITs approved for hazardous (classified) locations have a label or some other identifying mark indicating acceptance by a nationally recognized testing laboratory.
- Make sure PITs with front-end attachments, including fork extensions, are marked to:
  - Identify the attachment
  - Show the approximate combined weight of the PIT and attachment
  - Show the maximum capacity of the PIT with attachments at their highest elevation and the load laterally centered.



# Design, Construction, and Equipment

WAC 296-863-200

## Rule

WAC 296-863-20020

### Protect operators from falling objects

#### You must

- Use an overhead guard to protect operators from falling objects such as small packages, boxes, and bagged material.



#### Exemption:

- A high lift rider truck may be operated without the guard, providing all of the following conditions are met:
  - Vertical movement of the lifting mechanism is restricted to 72 inches (1800 mm) or less from the ground
  - The high lift rider truck will operate only in an area where:
    - The top of a tiered load won't be more than 120 inches (3000 mm) high
    - The bottom of a tiered load won't be more than 72 inches (1800 mm) high
    - Only stable loads are handled
    - The operator is protected from objects falling from high stack areas.



#### Note:

- The overhead guard isn't intended to withstand the impact of a maximum capacity load of the PIT.

#### You must

- Equip all high lift rider trucks with overhead guards that meet the design and construction requirements of American National Standards Institute (ANSI) B56.1-1993, Safety Standards for Powered Industrial Trucks.
- Use a vertical load backrest extension to keep all or any part of the load from falling backwards towards the operator if the load presents a hazard.

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# Design, Construction, and Equipment

WAC 296-863-200

## Rule

### WAC 296-863-20025

#### Provide fall protection on order pickers

##### You must

- Make sure order pickers have either:
  - Standard guardrails on all open sides

**or**

  - A safety harness and lanyard that are connected to a tie off point that has been approved by the PIT manufacturer.
- Make sure personal fall arrest equipment meets the requirements of WAC 296-24-88050, Appendix C, Personal Fall Arrest Systems.

### WAC 296-863-20030

#### Provide directional lights on PITs when required

##### You must

- Provide PITs with directional lighting if the general lighting is less than 2 lumens per square foot.



##### Note:

- Lighting levels can be measured with a light meter.
- Conversion information: 1 foot-candle = 1 lumen incident per square foot = 10.76 lux.



# Design, Construction, and Equipment

WAC 296-863-200

## Rule

### WAC 296-863-20035

#### Make sure liquefied petroleum gas (LPG) fueled PITs meet these requirements

##### You must

- Use fuel containers that meet **either** of the following minimum requirements:
  - A U.S. Department of Transportation (USDOT) approved container authorized for LP-gas service that has a minimum service pressure of 240 pounds per square inch gage (psig)  
**or**
  - A container Type 250 that has a design pressure of 312.5 psig.
- Make sure fuel containers don't use variable liquid-level gages that require venting fuel to the atmosphere.
- Make sure the fuel system of PITs **used inside buildings:**
  - Has an approved automatic shutoff valve, located ahead of the inlet of the gas-air mixer, that will stop the flow of fuel to the mixer if the engine stops  
**and**
  - Use not more than 2 LP-gas fuel containers.
- Make sure the fuel system of PITs **used outdoors** has an approved automatic shutoff valve, located ahead of the inlet of the gas-air mixer, that will stop the flow of fuel to the mixer if both:
  - The ignition is **off**
  - The engine isn't running.



##### Note:

- You may use an atmospheric type regulator (zero governor) as a shutoff valve if the PIT is used outdoors.



# Design, Construction, and Equipment

WAC 296-863-200

## Rule

### WAC 296-863-20040

#### Meet these requirements when converting gasoline fuel PITs to liquefied petroleum gas (LPG) fuel

##### You must

- Make sure PITs originally approved to use gasoline for fuel that are then converted to LPG fuel:
  - Meet the requirements for LP or LPS designated PITs  
**and**
  - Are converted using only approved equipment.



##### Definitions:

- **LP** refers to liquefied petroleum gas-powered trucks that, in addition to meeting all the requirements for type G trucks, have minimum acceptable safeguards against inherent fire hazards.
- **LPS** refers to liquefied petroleum gas powered trucks that, in addition to meeting the requirements for LP type trucks, have additional exhaust, fuel, and electrical systems safeguards.



##### Note:

- Tables 1, 2, and 3 list the types of PITs and the locations where they can be used safely.
- The description of the component parts of the conversion system and the recommended method of installation on specific PITs are contained in the "Listed by Report" provided by the testing laboratory.



# Notes

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